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# Proprietary Rights

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## Copyrightability of Software User Interfaces: The Natural Law Versus the Social Utilitarian Approach

By Bradford P. Lyerla

A basic philosophical disagreement underlies the different approaches in the cases dealing with the copyrightability of software user interfaces. That philosophical debate can influence the outcome in litigated cases as can be seen by comparing the court's analysis in *Lotus v. Borland* with the court's analysis in *Apple v. Microsoft*. Understanding the philosophical debate is essential to understanding the cases.

### Natural Law vs. Social Utilitarian

There is a long-standing and deep-seated disagreement as to whether software user interfaces should be copyrightable. There are those who answer this question with an emphatic yes. They accept a philosophical approach which is sometimes referred to as the "natural law" approach. Then there are those who say absolutely no. They advocate an approach called the "social utilitarian" approach. Let's compare the two.

At the risk of oversimplifying what is already a simplistic approach, the natural law approach says that it is desirable to reward a software developer's "sweat equity" in the user interface by providing copyright protection to provide an incentive to developers to invest the time and money to develop new and better programs. This benefits society. The natural law approach also says that copyright protection does not retard advancement of computer software art, but rather stimulates it by forcing developers to come up with new and different software to avoid infringing existing copyrights.

In contrast, the social utilitarian view says that the natural law approach is unrealistic. The social utilitarian believes that diversity in software interfaces is not desirable. In fact, what is desirable is standardization and uniformity. Copyright stands in the way of standardization and uniformity. The social utilitarian also believes that useful innovation is inhibited by copyright.

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For the social utilitarian, the nature of interface development is evolutionary, not revolutionary. Fully fleshed out interfaces result from repeated implementations by different groups, each learning from the results of previous attempts. Examples sometimes cited to support this argument include: (1) the Macintosh interface was based on ideas tried previously by Xerox and SRI, and before that by the Stanford Artificial Intelligence Laboratory; (2) the Lotus 1-2-3 interface was based on the interface of Visicalc and other spreadsheets; (3) dBase was based on a program previously developed at the Jet Propulsion Laboratory. Thus, interface development, the social utilitarian argues, advances in small steps building on the earlier efforts of others. Unfortunately, small steps of this type are not permitted by copyright law. Thus, the social utilitarian regards copyright as a major obstacle to the useful innovation of computer interfaces.

The social utilitarian further argues that the incentive supposedly provided by copyright is not needed. The social utilitarian believes that history proves this to be true. The argument is that, until 1986, user interface copyrights were unheard of. The whole industry developed under a system where imitating existing user interfaces was both standard practice and lawful. Yet, the lack of copyright protection did not discourage companies from developing their own products, and they engaged in this expensive and time consuming development even though their competitors were free to imitate the interfaces which resulted. Thus, the social utilitarian argues that adding the additional incentive of copyright is unnecessary to stimulate development, and, in reality, only results in diminishing competition.

Notable advocates of the natural law approach include Apple, Lotus, their attorneys and, arguably, Judge Keeton.<sup>1</sup> The best known advocate of the social utilitarian approach is probably the League for Programming Freedom in Cambridge, Massachusetts.<sup>2</sup> The debate has been raging for several years. And the different points of view have been aired and re-aired at virtually every meeting of computer law groups held during that time.

### Current State of the Law

Neither the natural law nor the social utilitarian approach has gained sway. Neither is the law of the land.<sup>3</sup> They represent the polar extremes. The law remains somewhere in the middle.

In *Feist Publications, Inc. v. Rural Telephone Service Co.*,<sup>4</sup> the Supreme Court said "no" to the natural law approach in its pure form. The Court said there that no

copyright will be awarded based only on sweat of the brow. It also said that incentives are secondary to protecting original expression.

On the other hand, no court has adopted the pure form of the social utilitarian approach. No court has said that user interfaces are not copyrightable. Most courts believe that some form of copyright is necessary to provide incentives to stimulate investment in development. Of course, we don't protect investment—these courts would say. We protect original expression. But our motive for protecting original expression is, at least partly, to create an incentive to develop new software.

## Compare *Lotus* and *Apple*

Despite the stalemate in the lecture halls, we are now starting to see that the debate is influencing the courts that decide copyright cases involving software user interfaces. Compare two recent cases: *Lotus v. Borland*<sup>5</sup> and *Apple v. Microsoft*.<sup>6</sup> These cases illustrate the different approaches. They also illustrate that until the Supreme Court steps in and resolves the profound differences between the two camps, we are unlikely to have agreement in approach among the courts of appeals and trial courts.

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Consider *Lotus v. Borland* first. Lotus claims a copyright in its very popular 1-2-3 spreadsheet program. Borland manufactures competing spreadsheet programs called the "Quattro" programs. Lotus contends that the Quattro programs infringe its copyright in 1-2-3.

Quattro can be operated in alternative modes. In its so-called "native" mode, Quattro does not look at all like 1-2-3. However, in its so-called "emulation" mode, Quattro employs the same menu and command structure as Lotus 1-2-3. It is the emulation mode of Quattro that Lotus contends infringes the 1-2-3 copyright. In response, Borland attacks the copyrightability of 1-2-3. Borland also argues that Quattro does not infringe, but for purposes of this discussion, we are focusing on copyrightability.

There is no doubt in Judge Keeton's mind that the

1-2-3 user interface as a whole is copyrightable. He made that clear in his opinion in *Paperback Software*<sup>7</sup> and he reaffirmed it in March of this year when he denied Borland's cross-motion for summary judgment.<sup>8</sup>

This July, he amplified his position and ruled that, in addition to the interface as a whole, certain subsets of the interface are copyrightable, including the menu command, menu structure, long prompts and keystroke sequences.<sup>9</sup> For Judge Keeton these elements are copyrightable notwithstanding: (1) that much of 1-2-3's "look and feel" is taken from the earlier Visicalc spreadsheet program which was not developed by Lotus, (2) that certain elements of 1-2-3 are indisputably not original, (3) that certain elements of 1-2-3 are concededly functional as opposed to expressive, and (4) that the 1-2-3 copyright reduces competition because 1-2-3 has become the dominant spreadsheet program in the marketplace. Competitors who cannot offer features in their spreadsheet programs similar to 1-2-3's features are at a competitive disadvantage.

Because of this, put Judge Keeton squarely in the natural law camp. In fact, he should be considered somewhat of a hawk. It seems that, but for the *Feist* case, he would be inclined to accept the natural law approach in its pure form. Indeed, in his *Paperback Software* opinion, which preceded *Feist*, he used an incentive-based argument to support his conclusion that the user interface of 1-2-3 is copyrightable. He was criticized for that argument in the Second Circuit's opinion in *Computer Associates v. Altai*.<sup>10</sup> And he backed off from that position in his July 31 opinion of this summer. But notwithstanding the disclaimer in his July opinion and his effort to harmonize his *Paperback Software* opinion with *Computer Associates*, Judge Keeton's opinions continue to be the strongest judicial statements in the case law favoring the natural law approach.

Compare and contrast *Lotus v. Borland* with *Apple v. Microsoft*. In *Apple v. Microsoft*, Apple sued Microsoft and Hewlett-Packard (HP) in 1988 alleging that Microsoft's Windows and HP's New Wave software infringe the copyright that Apple claims for the user interface of its Macintosh computer. At the request of the court, Apple early on provided a list of 189 similarities between the Macintosh interface and the Windows interface and 147 similarities between Macintosh and New Wave.

Based on a 1985 license agreement whereunder Apple licensed Microsoft's 1.0 version of Windows (and under which Microsoft thereafter sublicensed HP), the court found in 1991 that only 10 of the alleged similarities between the Macintosh interface and the Windows interface are unlicensed and only 54 of the alleged similarities between the Macintosh and New Wave are unlicensed.

After that ruling, the parties filed cross-motions for

summary judgment disputing, among other things, whether the unlicensed similarities between the Macintosh and the defendants' interfaces are copyrightable. In resolving that issue, Judge Walker held that these elements are not copyrightable, and in doing so, he put himself squarely in the social utilitarian camp.

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A point of departure for Judge Walker seems to be the fact that many of the features incorporated into the Macintosh user interface are features which were developed at Xerox's Palo Alto Research Center in the 1970s. Xerox's notion was to design a user interface using graphics which would be appealing and intuitive to unsophisticated users of home computers. Xerox researchers experimented at length with the use of movable icons and windows in the user interface as a means of manipulating the programs in the computer. The software which resulted from Xerox's development effort was called Small Talk. Small Talk also made extensive use of a hand-operated mouse, which functioned as a cursor pointer. The mouse was not original to Xerox, having been developed at the Stanford Research Institute, but Xerox employed the mouse extensively in its user interface.

Apple based the Macintosh user interface on Xerox's Small Talk user interface. Thus, the elements in the Macintosh user interface are not expression original to Apple. Evidently, for that reason, Apple did not argue to Judge Walker that individual elements of the Macintosh user interface are copyrightable. Instead, it adopted a strategy in the litigation of contending that the individual elements are not important, but that their unique arrangement in the user interface is original expression and, therefore, copyrightable. However, Judge Walker rejected that argument. For him, overly inclusive copyright protection inhibits the adoption of uniform standards which make it easier to use computers. He believes that the court's job is to strike a balance between protecting creative expression while not stifling others from improving or extending that expression in ways that benefit society. He concluded that to accept Apple's

"look and feel" argument, would allow Apple to sweep within its proprietary embrace not only Windows and New Wave, but every interface which employs user friendly graphics such as movable icons and windows. He reasoned that Apple's "look and feel" approach would afford too much protection for the copyright owner and yield too little competition and product innovation. Thus, Judge Walker rejects the "look and feel" approach. And he does so for classic social utilitarian reasons. He wants to foster competition and encourage software development by allowing software developers to build upon the shoulders of those who have gone before.

Where he may get himself into trouble, though, is that he does not successfully reconcile his rejection of "look and feel" with the Supreme Court's analysis in *Feist*. Arguably, "look and feel" is just a form of compilation. And if that is true, then a compilation that has the requisite minimal originality ought to be copyrightable even if the individual elements in the compilation, in and of themselves, are not copyrightable. The weakness in Judge Walker's analysis is that he fails to engage this argument.

## Conclusion

Understanding the underlying philosophical debate enhances one's understanding of the cases.<sup>11</sup> On the one hand, Judge Keeton in Massachusetts represents the hawk-like natural law position. On the other hand, Judge Walker in the Silicon Valley represents the dove-like social utilitarian position. And the other cases, like *Brown Bag*,<sup>12</sup> *Computer Associates* and others, fall at various places along the continuum. Given the unsettled nature of the law in this area, the only prediction I will hazard is that the cases will continue to be decided inconsistently until the Supreme Court takes one of these cases and deals with these issues decisively or Congress devises an alternative to copyright for the protection of software user interfaces.

## NOTES

1. *Lotus v. Paperback Software*, 740 F. Supp. 37 (D. Mass. 1990).
2. *The League for Programming Freedom, Against User Interface Copyright* (October 20, 1991) (private paper).
3. Some commentators seem to assume, though, that Thomas Jefferson favored the social utilitarian approach and that he intended that this approach be embodied in U.S. Const., Art. I, §8, cl. 8. See Hemmes, "Three Common Fallacies in the User Interface Copyright Debate," 7 *The Computer Lawyer* 14 (February 1990).
4. 111 S. Ct. 1282 (1991).
5. 1992 U.S. Dist. LEXIS 11358, CCH 1992 copyright Law Decisions ¶ 26, 965 (July 31, 1992).
6. 24 U.S.P.Q.2d 1081 (N.D. Cal. 1992).
7. 740 F. Supp. 37.

8. 788 F. Supp. 78 (D. Mass. 1992).

9. 1992 U.S. Dist. LEXIS 11358.

10. 23 U.S.P.Q. 2d 1241 (2d Cir. 1992).

11. Although at some level the analyses in these cases defies understanding. That is not intended as a criticism of the judges who have written these opinions. Rather it is a comment upon our current approach which is to strain to apply

copyright law, a body of law which evolved to protect literary works, to computer software which is radically different from a literary work in the usual sense. The current approach is much like trying to force a square peg into a round hole. It can be done. But it requires a lot of effort and no one is happy with the result.

12. *Brown Bag Software v. Symantec Corp.*, 960 F.2d 1465 (1992).